

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO COMMERCIAL

Report Number: P838653

Luminaire Tested: HCSQ645D010-HM64560940-61SQMW

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838653
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-3)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ645D010-HM64560940-61SQMW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

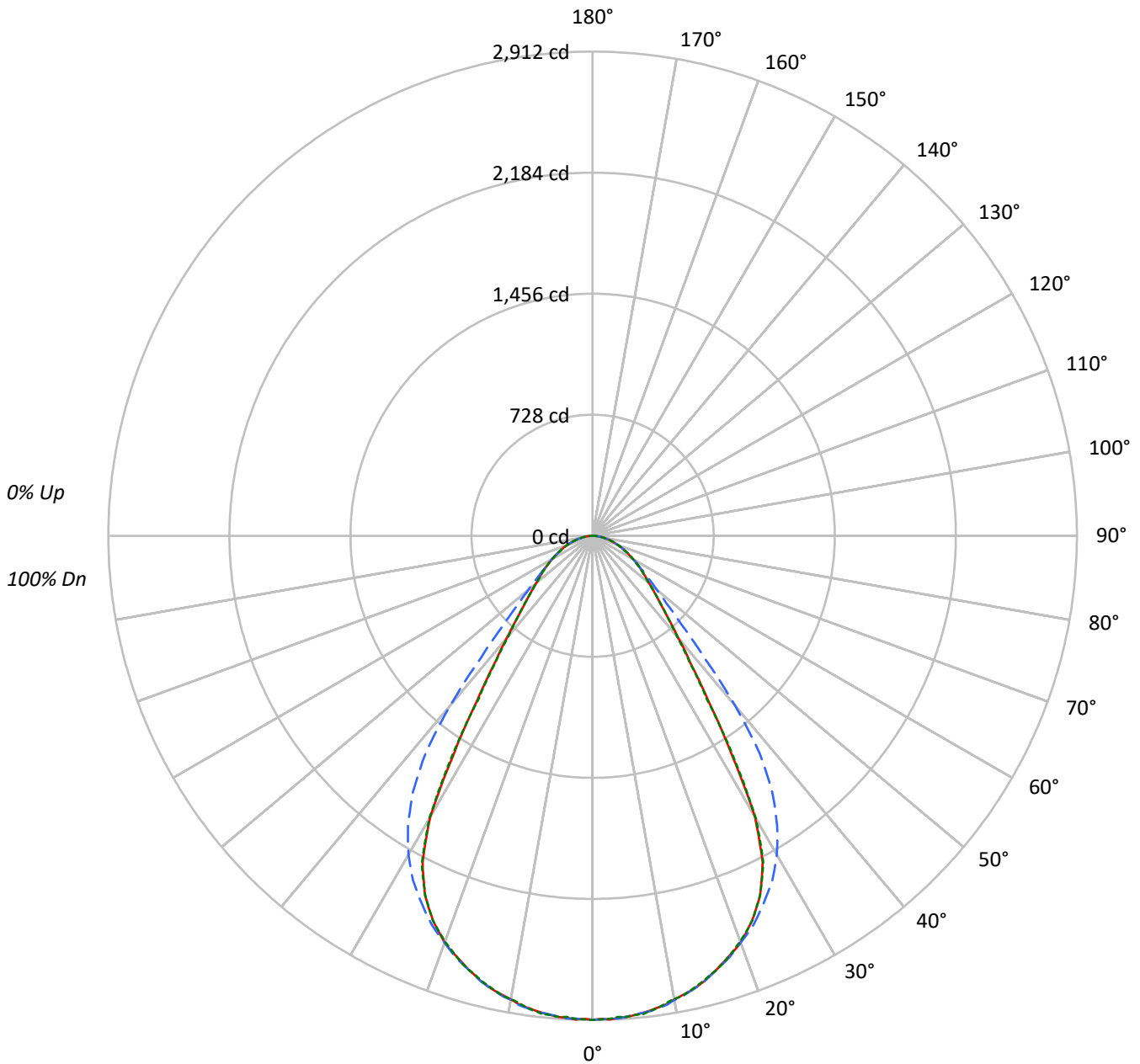
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4294.6 lumens
Efficiency: N/A
Efficacy: 93.6 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 45.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20										
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	111	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89								
2	104	98	92	88	102	96	91	87	92	88	85	89	86	83	86	84	81	79								
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73	71								
4	91	81	74	69	89	80	73	68	77	72	67	75	70	67	73	69	66	64								
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58								
6	80	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53								
7	75	63	56	51	73	63	56	51	61	55	51	60	54	50	59	54	50	48								
8	70	59	52	47	69	58	51	47	57	51	46	56	50	46	55	50	46	44								
9	66	55	48	43	65	54	48	43	53	47	43	52	47	43	51	46	43	41								
10	63	51	45	40	62	51	44	40	50	44	40	49	44	40	48	43	40	38								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	125361	125361	125361
5°	125049	124958	125049
10°	123823	123915	123649
15°	121983	122072	121800
20°	119234	119326	118955
25°	113284	115702	113189
30°	97007	110157	97613
35°	63736	99031	62774
40°	45060	74674	44256
45°	34939	45966	35182
50°	29714	33525	29439
55°	26731	27489	26731
60°	24180	24180	24180
65°	22179	21975	21975
70°	20230	20230	20494
75°	18948	18282	18615
80°	16637	16637	16637
85°	14079	14079	14079

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 45966 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	274.5	6.4
10°-20°	770.9	17.9
20°-30°	1098.5	25.6
30°-40°	936.6	21.8
40°-50°	518.2	12.1
50°-60°	326.4	7.6
60°-70°	216.7	5.0
70°-80°	119.1	2.8
80°-90°	33.9	0.8
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2143.8	49.9
0°-40°	3080.4	71.7
0°-60°	3925.0	91.4
0°-90°	4294.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4294.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2912	2912	2912	2912	2912	
5°	2893	2897	2891	2887	2893	274
15°	2737	2737	2739	2737	2732	770
25°	2385	2413	2436	2411	2383	1077
35°	1213	1430	1884	1432	1194	788
45°	574	629	755	625	578	455
55°	356	362	366	360	356	320
65°	218	220	216	218	216	217
75°	114	112	110	112	112	120
85°	28	28	28	30	28	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2911.6	2911.6	2911.6	2911.6	2911.6
1°	2905.5	2909.5	2909.5	2907.5	2909.5
2°	2911.6	2905.5	2905.5	2905.5	2907.5
3°	2903.4	2907.5	2907.5	2901.4	2897.3
4°	2901.4	2899.4	2899.4	2905.5	2901.4
5°	2893.3	2897.3	2891.2	2887.2	2893.3
6°	2885.1	2887.2	2885.1	2887.2	2893.3
7°	2875.0	2881.1	2879.0	2877.0	2877.0
8°	2862.7	2870.9	2866.8	2866.8	2864.8
9°	2850.5	2852.6	2856.6	2856.6	2844.4
10°	2832.2	2838.3	2834.3	2836.3	2828.2
11°	2815.9	2824.1	2822.1	2818.0	2820.0
12°	2801.7	2805.8	2803.7	2797.6	2799.7
13°	2783.4	2787.5	2785.4	2785.4	2779.3
14°	2763.0	2759.0	2765.1	2761.0	2759.0
15°	2736.6	2736.6	2738.6	2736.6	2732.5
16°	2712.2	2714.2	2714.2	2712.2	2714.2
17°	2683.7	2691.8	2689.8	2685.7	2687.8
18°	2657.2	2663.4	2665.4	2663.4	2657.2
19°	2632.8	2636.9	2634.9	2626.7	2626.7
20°	2602.3	2604.3	2604.3	2600.3	2596.2
22.5°	2506.7	2520.9	2531.1	2523.0	2506.7
25°	2384.6	2413.1	2435.5	2411.1	2382.6
27.5°	2213.7	2270.7	2337.8	2276.8	2223.9
30°	1951.2	2081.4	2215.7	2093.6	1963.4
32.5°	1552.4	1808.8	2065.2	1833.2	1576.9
35°	1212.6	1430.4	1884.1	1432.4	1194.3
37.5°	968.5	1123.1	1652.1	1113.0	958.3
40°	801.7	905.4	1328.6	901.3	787.4
42.5°	669.4	748.7	994.9	740.6	669.4
45°	573.8	628.7	754.9	624.6	577.8
47.5°	502.6	537.1	604.3	535.1	502.6
50°	443.6	463.9	500.5	461.9	439.5
52.5°	396.8	409.0	423.2	404.9	392.7
55°	356.1	362.2	366.2	360.1	356.1
57.5°	317.4	321.5	319.4	317.4	315.4
60°	280.8	282.8	280.8	282.8	280.8
62.5°	248.2	250.3	246.2	248.2	246.2
65°	217.7	219.7	215.7	217.7	215.7
67.5°	189.2	189.2	189.2	189.2	187.2
70°	160.7	162.8	160.7	162.8	162.8
72.5°	136.3	136.3	134.3	136.3	136.3
75°	113.9	111.9	109.9	111.9	111.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
82.5°	<i>48.8</i>	48.8	46.8	48.8	48.8
85°	<i>28.5</i>	28.5	28.5	30.5	28.5
87.5°	<i>14.2</i>	12.2	12.2	14.2	14.2
90°	<i>0.0</i>	0.0	0.0	0.0	0.0

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



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Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270°

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77.5°	89.5	89.5	87.5	89.5	89.5
80°	67.1	69.2	67.1	69.2	67.1

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Scaled Data Report



(END OF REPORT)